

OPINIONS AND DECLARATIONS RENDERED BY THE INTER- NATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the Commission

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OPINION 256

Emendation to *Phlebotomus* of the generic name
Flebotomus Rondani, 1840 (Class Insecta, Order Diptera)
under the Plenary Powers



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INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

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OPINION 256

EMENDATION TO "PHLEBOTOMUS" OF THE GENERIC NAME "FLEBOTOMUS" RONDANI, 1840 (CLASS INSECTA, ORDER DIPTERA) UNDER THE PLENARY POWERS

RULING :—(1) Under the Plenary Powers the spelling of the generic name *Flebotomus* Rondani, 1840, is hereby emended to *Phlebotomus*.

(2) The generic name *Phlebotomus* (emend. of *Flebotomus*) Rondani, 1840 (gender of name : masculine) (type species, by monotypy : *Bibio papatasi* Scopoli, 1786) (Class Insecta, Order Diptera) is hereby placed on the *Official List of Generic Names in Zoology* as Name No. 682.

(3) The specific name *papatasi* Scopoli, 1786, as published in the combination *Bibio papatasi*, is hereby placed on the *Official List of Specific Names in Zoology* as Name No. 75.

(4) The name *Flebotomus* (Invalid Original Spelling of *Phlebotomus*) Rondani, 1840, is hereby placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* as Name No. 65.

I.—THE STATEMENT OF THE CASE

In the summer of 1944 the attention of the International Commission on Zoological Nomenclature was drawn to a suggestion by Mr. William F. Rapp, Jr. (*University of Illinois, Department of Entomology, Urbana, Illinois, U.S.A.*) in a paper entitled "The correct Generic Name of the Sand Fly" published in April 1944 (*Science* (n.s.) 99 : 345) that the emended spelling

Phlebotomus for the generic name *Flebotomus* Rondani, 1840 (Class Insecta, Order Diptera) should be abandoned and a return made to the original spelling. The Executive Committee of the International Commission took the view that, having regard to the large literature associated with the name *Phlebotomus* and the importance of that name to workers in the medical field, a change in the spelling of this name should not be made without prior reference to the International Commission. Accordingly, on 22nd September 1944 Mr. Francis Hemming, Secretary to the International Commission, addressed to the editor of *Science* a note drawing attention to the foregoing considerations and appealing to interested workers to furnish their views to the Commission. This communication, which was published in *Science* (n.s.) **100** : 385 on 27th October 1944, was as follows :—

The generic name of the Sand Fly

By FRANCIS HEMMING

(Secretary to the International Commission on Zoological Nomenclature)

The attention of the Executive Committee of the International Commission has been drawn to the communications regarding the generic name of the Sand Fly by Dr. William F. Rapp, Jr., which appeared in the issues of *Science* for April 28 and August 11, last, and by Dr. Charles T. Brues in the issue for May 26, last.

The proposed abandonment of the emended spelling *Phlebotomus* Agassiz, 1842, in favour of the original spelling *Flebotomus* used by Rondani when he first published this name in 1840, affects not only workers in systematic zoology but also—and perhaps especially—workers in the medical field in view of the enormous literature regarding the role played by this fly in the spread of disease. It is clearly of great importance that, in order to prevent confusion from arising, the correct spelling of this generic name should be settled as soon as possible. In view of the fact that the issue involved turns upon the interpretation of Article 19 of the International Code of Zoological Nomenclature, it appears to the Executive Committee that this is a matter which should be referred for decision to the International Commission on Zoological Nomenclature, as the authority officially charged with the duty of interpreting the application of the International Code in cases of difficulty. Communications in regard to this matter should be addressed to the International Commission on Zoological Nomenclature at their Publications Office, 41, Queen's Gate, London, S.W.7.

2. In response to the appeal for comments on this case contained in the short paper by Mr. Hemming reproduced in the preceding paragraph, Dr. C. T. Brues (*The Biological Laboratories, Harvard University, Cambridge, Massachusetts, U.S.A.*) submitted to the International Commission the following request for an authoritative ruling as to the spelling to be adopted for this generic name :—

“ *Phlebotomus* ” vs. “ *Flebotomus* ”

By C. T. BRUES

(*The Biological Laboratories, Harvard University,
Cambridge, Massachusetts, U.S.A.*)

In 1840, the Italian Entomologist Rondani described as *Flebotomus*, a genus of phlebotomic Diptera belonging to the family PSYCHODIDAE. In his *Nomenclator Zoologicus*, Agassiz changed the spelling to *Phlebotomus* as the derivation clearly intended was from the Greek *φλεβός* (vein) and *τομή* (cutting). It seems clear that the spelling *Flebotomus* by Rondani was a natural error for an Italian to make, but it is nevertheless completely at variance with the usual procedure in transliterating Greek into Latin, and should be regarded as a *lapsus calami* for *Phlebotomus*. At present there is a sad lack of uniformity in spelling the name of this genus which is an extremely important one in the field of medicine and public health. As these flies act as vectors of at least two important human diseases, they are consequently very commonly referred to in many publications.

I wish to urge upon the International Commission on Zoological Nomenclature that it consider this matter, so that its decision may be made available to workers in the several fields of science that are concerned with these flies.

II.—THE SUBSEQUENT HISTORY OF THE CASE

3. *Registration of the present application* : Immediately upon the issue by the Secretary of the appeal to specialists for advice reproduced in the first paragraph of the present *Opinion*, the

problem represented by the rival spellings *Phlebotomus* and *Flebotomus* was allotted the Registered Number Z.N.(S.) 169.

4. *View submitted by Mr. William F. Rapp, Jr. (University of Illinois, Department of Entomology, Urbana, Illinois, U.S.A.)*: At the time of the issue of the appeal reproduced in the first paragraph of the present *Opinion*, the Secretary wrote to Mr. William F. Rapp, Jr., as the author by whom the abandonment of the emendation *Phlebotomus* had been proposed, inviting him to furnish a statement of his views for the consideration of the Commission. In response to this invitation, Mr. Rapp submitted the following paper on 20th October 1944 :—

The Generic Name of the Sand Fly

By WILLIAM F. RAPP, Jr.

(*University of Illinois, Department of Entomology, Urbana, Illinois, U.S.A.*)

In the issue of *Science* for May 26, 1944, I published a note stating that the correct spelling of the generic name of the Sand Fly is *Flebotomus* and not *Phlebotomus* as commonly spelled by parasitologists. The basis for this statement is the fact that Camillo Rondani in *Sopra una specie di Insetto Dittero ; Memoria prima per servire alla Ditterologia Italia*, page 12 erected the genus *Flebotomus*.

Prof. Charles T. Brues of Harvard College, in the issue of *Science* for May 26, 1944, claimed that the correct generic name is *Phlebotomus* because the name was derived from the Greek words (φλέψ) vein and (τομός) cutting. According to him and certain other entomologists, Rondani's name contained an "evident typographical error" since the name was obviously derived from the Greek (φλέψ) vein and (τομός) cutting.

It is true that Agassiz in 1846, in his *Index Universalis*, changed the spelling to *Phlebotomus* and gave the Greek derivation as quoted by Brues, although he recognized that Rondani had spelled it with an "f" in his description. In the *Praefatio* to the *Index Universalis*, Agassiz explained that he improved names wherever he thought it necessary.

Discussing the derivation of the word first, the question arises as to whether φλέψ and τομός would be translated with an "f" or a

“ph”. Agassiz did not use the classical form of Latin commonly taught in schools today. Furthermore, Italians often translate the Greek “ph” as “f”. However, this is a problem for students of classical languages rather than for those of zoological nomenclature.

The main problem is whether the original spelling of the word *Flebotomus* can be changed. According to Article 19 of the International Code of Zoological Nomenclature, names cannot be re-described with a better spelling as suggested by Agassiz, for the article states :

The original orthography of a name is to be preserved unless an error of transcription, a *lapsus calami* or a typographical error is evident.

Then has a typographical error occurred as suggested by Brues ? Since Rondani himself used the name *Flebotomus* many times after publishing the original description, there is no evidence that he thought that a typographical error had been made. Brues bases his argument on a typographical error on the derivation of a word. It is very likely that Rondani may not have had any such derivation as $\phi\lambda\epsilon\psi$ and $\tau\omicron\mu\omicron\delta\varsigma$ in mind when he described the species. The International Commission on Zoological Nomenclature has already established a precedence for such cases in *Opinion 34* on Article 19 :

Since evidence of the derivation of the word is not contained in the original publication, the original spelling shall be preserved.

From the Rules of the Code, therefore, a name cannot be changed simply to obtain a better spelling either to satisfy what others believe the correct derivation of the word to be or to agree with a series of medical terms as Professor Brues, in his article, suggests. If we are not to follow these rules, for what purpose do they exist ?

In my opinion, no error of transcription, *lapsus calami* or typographical error has occurred and following the International Code, the generic name of the Sand Fly should remain as in the original description—*Flebotomus*.

5. *View submitted by Dr. Franklin C. MacKnight (New Orleans, Louisiana, U.S.A.)* : On 7th October 1945, Dr. Franklin C. MacKnight (*New Orleans, Louisiana, U.S.A.*) furnished the following statement commenting on the views on the present case expressed (1) by Professor Harold Kirby (*University of California, Berkeley, California, U.S.A.*) and (2) Professor

Charles H. Blake (*Massachusetts Institute of Technology, Cambridge, Mass., U.S.A.*) in notes published earlier that year in the serial publication *Science* :—

On the Correction of Orthographic Errors in Taxonomy

By FRANKLIN C. MACKNIGHT
(*New Orleans, Louisiana, U.S.A.*)

Intermittently during the past fifteen months there has appeared in these columns a discussion concerning the interpretation of Article 19 of the International Rules of Zoological Nomenclature as concerns the corrections of *fautes d'orthographe*, a matter of much practical importance to the systematic taxonomist.

It started over the Sand Flea. In the issue of April 25, 1944 there appeared a note by W. F. Rapp, pointing out that the synonym or variant *Phlebotomus* should be abandoned for the original *Flebotomus Rondani*. On May 22 came a reply from Prof. Charles T. Brues who stated that *Flebotomus* had been emended to *Phlebotomus* as a "very evident typographical error". Rapp's reply of August 11 pointed out that since the original transliteration from the Greek was demonstrably deliberate and phonetic, though unorthodox, it could not be considered a typographical error.

In the issue of November 10, 1944¹, Prof. Harold Kirby discussed the matter thoroughly and drew the following conclusions: (1) that the *lapsus calami* or "slip of the pen" of Article 19* of the International Rules of Zoological Nomenclature is a mistranslation of the French *faute d'orthographe*, and (2) that therefore "if in transcribing or in transliterating a word of Greek derivation an error is made, restoration of the correctly derived word is appropriated to the most rigid insistence on priority".

The only further correspondence in the controversy has been a note on February 16, 1945 by Prof. Charles H. Blake recording agreement with Kirby and requesting the enforcement of emendation of such "barbarous forms as *Flebotomus*".

The absence in the meantime of comments adverse to Kirby's stand is puzzling, since he goes further than a strict reading of the

* Article 19 states "The original orthography of a name is to be preserved unless an error of transcription, a *lapsus calami*, or typographical error is evident". (F.C.M.)

¹ Kirby (H.) 1944 "Une faute de transcription, d'orthographe, ou d'impression", *Science* 100 : 475—427.

rules permit, and it seems necessary for someone to present the other side of the case.

By his examples Kirby seems to infer that all deviations from the orthodox method of transliteration from the Greek be considered as errors. This extreme position cannot be maintained in the light of the *Opinions* of the Commissioners acting on their interpretation of Article 19; and Kirby admits that these *Opinions* "constitute a valuable commentary". It is true that Article 8, Recommendation (a), may seem to apply to Article 13 in stating that the rules of Latin transliteration (as given in appendix F of the Rules) should be followed when a Greek substantive is used; but nowhere is it expressed that these rules are to be considered compulsorily retroactive. Hence it seems evident that they are to be considered only as recommendations of proper form for future work, as in the Botanical Rules.

It must be realised that these transcription rules, in addition to calling for certain normal equivalents of most Greek letters and the recognition of the operation of a few special phonetic changes ($\gamma\gamma$ to *ng*, $\gamma\chi$ to *nch*, $\gamma\kappa$ to *nc*), also require latinization of κ to *c* (not *k*), $\alpha\iota$ to *ae* (not *ai*), $\epsilon\iota$ to *i* (not *ei*), $\omicron\iota$ to *oe* (not *oi*), $\omicron\upsilon$ to *u* (not *ou*), final η to *a* (not *e*), final $\omicron\nu$ to *um* (not *on*), and final $\omicron\varsigma$ to *us* (not *os*). It is probably going too far to accuse Prof. Kirby of wishing to alter *Rhinoceros* to *Rhinocerus*, yet he does mention *Strombodium* as a preferred correction of *Strombodium*. Presumably he also objects to such well established paleontological names as *Ankylosaurus*, *Machairodus*, *Deinodon*, *Oulodus*, *Hipparion*, and *Gladoselache*. There may be hundreds of names of undisputed validity which violate one or more of these minor requisites. Scores of such names have been approved by the zoological Commissioners in their *Opinions*. For example, in *Opinion* 23,* *Cheilodipterus* is accepted with no mention of an alteration to *Chilodipterus*. For further examples of such condonments see *Opinions* 12, 66, 67, 73, 75, 77, 85, 88, 91, 92, 117, 119, 125, and 133.

Particularly relevant to this matter is *Opinion* 125† where *Borus* Albers, 1850 is judged a dead homonym because of *Borus* Agassiz, 1846, an emendment and "absolute synonym" of *Boros* Herbst, 1797. In this case judgment was not passed on *Borus* Agassiz, evidently because it was the genus in question. Bather, however, wrote :

By Article 19, the name *Boros* Herbst should be preserved unless an error of transcription, a *lapsus calami* or a typographical error is evident. Since the name is obviously the Greek $\beta\omicron\rho\omicron\varsigma$ none of these is evident.

* *Special Publication of the Smithsonian Institute* 1938, July 1910.

† *Smithsonian Miscellaneous Collection*, Vol. 73, 1941.

But Article 8, Recommendation (a), and Appendix F Herbst "should" have written *Borus*. Since this recommendation is based on the previous usage of both classical scholars and the early systematists (who were for the most part scholars), Agassiz was within his rights in emending to *Borus*. If his right be disputed, then, since there is no possible question of an error of transcription, *Borus* Agassiz is a synonym of *Borus* Herbst.

Thus Bather steered around the question of the validity of Agassiz' emendment, since the judgment was on *Borus* Albers. However, Richter, another Commissioner, directly stated that Agassiz had no right to make the change.

There are also examples of condonments of more serious errors. *Opinion* 117 condones *Lithostrotion* Fleming 1828, taken directly from Lhwyd's Latin appellation in *Lithophylacii Britannici Ichnographia* (1699). *Lithostrotion* is either an error for *lithostrotus* or *lithostrotum*, or a deliberately coined variation. The meaning is "mosaic (paving) stone", from the Greek λιθός + στρωτός (adjective), or στρώσις (noun). Either way, a purist would object to it, for it would be *lithostrotus* or *lithostrosis* if the direct Greek instead of the Latin is desired.

Another serious error is condoned in *Opinion* 67*, where *Apaloderma* is placed on the *Official List of Generic Names*. This disregard of the aspirate can hardly be considered as anything but an error of transcription.

Besides about a score of condonments of "illegally" constructed names, the *Opinions* also offer examples of the rejection of several, but, pointedly, for reasons other than construction. *Klinophilos* (*Opinion* 81†) and *Carcharodon* (*Opinion* 47‡) are rejected as later synonyms, for instance.

On the other hand there are few cases of actual corrections of orthographic errors (not true typographical errors as in *Opinions* 26, 27, 41, etc.). *Opinion* 36§ changes the *x* in *Dioxocera*, *Trioxocera*, and *Pentoxocera* to *z*. In this case it is significant that there was no question of the mis-construction of the original names since the author of the species admitted the error and requested official emendation. *Opinion* 66|| includes *Ancylostoma* among a number of names to

* *Special Publication of the Smithsonian Institute*, 2409, April '16.

† *Smithsonian Miscellaneous Collection*, Vol. 73, 1941.

‡ *Special Publication of the Smithsonian Institute*, 2060, Feb. '12.

§ *Special Publication of the Smithsonian Institution*, 2013, Dec. '11.

|| *Special Publication of the Smithsonian Institution*, 2359, Feb. '15.

be added to the *Official List of Generic Names*. Fide Kirby, this name was originally *Agchylostoma*. Unfortunately the *Opinion* merely states that the various names in question and data upon them were circulated among the Commissioners and were approved. The historical data and reason for the necessity for special treatment are omitted, but the inference is strong that the Commissioners consider *gch* for $\gamma\kappa$ a worse error than omission of the *H* in (*H*) *Apaloderma*. Kirby also states that the Commissioners favor *Trichomonas* over an original *Tricomonas*, but I am unable to find this example. It is also possible that a complete knowledge of the histories of the various names placed on the *Official List* would reveal some more cases of correction of an original error, but certainly not many.

One must conclude, then, that the past practice of the Commission indicates that it is not disposed to make any alterations of original spellings for orthographical reasons save where there is no excuse whatever for the original spelling.

So how about *Flebotomus*? How great an error is the transliteration of ϕ as *f*?

It is true that the Greek ϕ was not pronounced exactly like the Latin *f*, or it would have been so rendered by the Romans, as they changed β to *b*, γ to *g*, ζ to *z*, etc. Instead they chose to join *p* and *h* to mimic this Greek consonant. Nevertheless there has been no phonetic distinction between *ph* and *f* in Latin tongues for some time. The only good reason for writing *ph* instead of *f* in a word is to denote its Greek ancestry. As this often gives a clear indication of meaning which might be obscured with the use of an *f*, the distinction is valuable. It may therefore be considered unfortunate that this was disregarded by the author of *Flebotomus*, but his usage may not be classed as a self-evident error.

Such "phonetic" transliterations of Greek are certainly not to be encouraged. Under certain circumstances, for instance, ϕ may be the equivalent of *b*; θ of *f*, *b*, or *d*; ξ of *j*; κ of *p*; δ of *t*; β of *g*; χ of *h* or hard *g*. When such cases arise such transliterations probably ought to be made just as $\gamma\gamma$ is transliterated *ng*, but no one but an expert in classical languages could do it. There are also the various possibilities of phonetic translations into other languages. A Spanish scientist might, for example, tend to transliterate θ to *z*, and χ to *x*. Admittedly, then, disregard for Article 8 tends to chaotic confusion; nevertheless, if such semi-valid transliterations are made, or have been made, it seems as though they must stand—at least till brought officially before the Commission.

This controversy, the arguments of Kirby and the statement by Bather, quoted above, indicate that the Zoological Rules are not

clear on the relationship of Article 8 to Article 19, and on the status of Recommendations in general. This sort of argument can hardly come up under the Botanical Rules* where it is expressly stated in Article 2 that: "The precepts on which this precise system of botanical nomenclature is based are divided into principles, rules and recommendations . . . They [the Rules] are always retroactive. Names . . . contrary to a Rule cannot be maintained . . . names or forms contrary to a Recommendation *cannot on that account be rejected* but they are not examples to be followed". (Italics mine.)

Article 70 states :

"The original spelling of a name or epithet must be retained except in the case of a typographical error or of a *clearly unintentional orthographic error*". Here notes are appended to illustrate that merely because *Amaranthus* and *Phoradendron* should have been *Amarantus* and *Phoradendrum* respectively, they are not therefore correctable.

Despite the lack of precision in statement of the Zoological Rules, the spirit behind them and their interpretation by the Commissioners seems to conform to the more exact Botanical Rules, in this matter, at least.

This pernicious habit of changing the spelling of names has been nearly as troublesome as changing the names themselves, and nothing but confusion derives from it. A good example of this may be appended.

In 1825 Sternberg† described *Lepidofloyos*, a genus of Pennsylvanian Lepidophytes. In 1850 Unger‡ changed it to *Lepidophloyos*. In 1853 Newberry§ altered it to *Lepidophloios*, and in 1877 Claypole|| pointed out that the spelling was still not quite "orthographic", and wrote it *Lepidophloeus*. Of these names, or variations, that of Newberry (mis-attributed to Sternberg) has persisted. Though made in an authoritative publication, Claypole's variation did not survive, probably because most paleobotanists considered it an illegal change, not knowing that *Lepidiphloios* itself was an illegal change. *Lepidofloyos* is the correct name and should be reinstated to general use.

* *International Rules of Botanical Nomenclature*, Jena, 1935

† *Flora der Vorwelt*, Vol. 1, Tentamen, p. xiii.

‡ *Genera et Species Plantarum Fossilium*, p. 278.

§ *Annals of Science* (Cleveland) Vol. 1, p. 96. Newberry was the first of several who may have independently adopted this "reformed" spelling.

|| In Miller. *North American Paleozoic Fossils*, p. xiii.

The same applied to *Flebotomus* unless and until the Commission rules otherwise.

6. View submitted jointly by Dr. G. B. Fairchild and Dr. Marshall Hertig (Gorgas Memorial Institute of Tropical and Preventive Medicine, Panama City, Republic of Panama): On 21st November 1946, Dr. G. B. Fairchild and Dr. Marshall Hertig (Gorgas Memorial Institute of Tropical and Preventive Medicine, Panama City, Republic of Panama) wrote a letter to the Commission giving particulars of the modern usage of the spellings *Flebotomus* and *Phlebotomus* respectively and urging that official approval should be given to the emendation *Phlebotomus* in the interests of nomenclatorial stability:—

Flebotomus and Phlebotomus

The undersigned have in progress a taxonomic paper on the sand-flies of Panama, and the question has arisen of the proper spelling of the generic name of these flies. Opinion among taxonomists seems to be divided. Costa Lima (1932, *Mem. Inst. Osw. Cruz*, 26, p. 15), Coquillett (1907, *Ent. News*, 18, pp. 101—102; 1910, *Proc. U.S. Nat. Mus.*, 37, p. 545) and most recently Rapp (1944, *Science* (N.S.), 99, p. 345 and 100, p. 124) maintain that *Flebotomus* is the original spelling and that the emendation to *Phlebotomus* made by Agassiz in 1842 and since very largely followed is untenable. On the other hand Dampf (1944, *Rev. Soc. Mexicana Hist. Nat.*, 5, p. 250) and Brues (1944, *Science* (N.S.), 99, p. 427) take a somewhat more liberal view, maintaining that the emendation was justified, either on the basis of orthography (Dampf) or that *Flebotomus* was an obvious typographical error (Brues). Since in addition Sabrosky (1946, *Proc. Ent. Soc. Washington*, 48, p. 164) has raised the question of the possible use of this name as a family name in place of PSYCHODIDAE, it seems more than ever necessary to have the question settled one way or another.

We feel that under a strict interpretation of the rules, ignoring the obvious derivation of the word and Rondani's own later acceptance of the emendation, *Flebotomus* is the correct spelling. There are, however, several good reasons for retaining the emendation, and we are in favor of suspending the rules, should it be decided that the emendation is unwarranted, and placing *Phlebotomus* on the *Official List of Generic Names*.

In the first place, there is a vast medical literature dealing with the role of these flies in disease transmission and so far as we have been able to determine, the emended spelling *Phlebotomus* has been used

exclusively. It is very unlikely that medical and public health workers would readily accept any change in the spelling at this late date. In the second place, the great majority of entomologists have also employed the emended spelling. All the Old World and all but a few of the New World species have been described under *Phlebotomus*.

We have made a partial search through the literature available to us, 229 papers by 77 different authors, and have listed our findings on the attached sheets. We are not in a position to make a more thorough search, but feel that a complete survey would show very few additional uses of *Flebotomus*.

To sum up, we hereby petition the International Commission on Zoological Nomenclature to suspend the Rules in the case of *Flebotomus* Rondani 1840 and place the emended form *Phlebotomus* on the *Official List of Generic Names*. Our reasons for this petition are as follows :

1. The original spelling of *Flebotomus* does not conform to the rules for transliteration from the Greek to Latin alphabets. The original spelling was emended very shortly afterwards (1842) and this emendation was later accepted by the original author, indicating rather ignorance of the rules for transliteration than deliberate intent.

2. The emended spelling *Phlebotomus* has been accepted by the vast majority of entomologists for over a century, and a return to the original spelling at this late date would cause confusion and inconvenience.

3. Due to the medical importance of these insects, there is a large and growing non-entomological literature using exclusively the emended form *Phlebotomus*.

4. Return to the use of *Flebotomus* by entomologists would probably not be followed by medical workers, thus leading to further confusion.

**Annexe to letter dated 21st November 1946 from Dr. G. B. Fairchild and
Dr. Marshall Hertig**

Authors who have consistently used "Flebotomus" :

Antunes, P. C. A. 1936—1 paper—biology.

Antunes and Coutinho 1939—1 paper—desc. of 1 species

Causey and Damasceno 1944—45—4 papers—desc. 17 species

Coquillett 1907, 1910—Only the 1910 list of Genotypes of *N. American Dipt.* seen.

Fonseca 1935—39—3 papers-desc. 3 species.

Mangabeira 1938—44—14 papers-desc. 36 species.

Curran 1934—The families and genera of *N. A. Diptera*.

Authors who have used "Flebotomus" occasionally :

Costa Lima—used *Phlebotomus* in 1932, in 4 subsequent papers published 1934—1941 used *Flebotomus*.

Rozeboom—used *Flebotomus* in 1940, *Phlebotomus* in 1942 and 1944.

Galvao and Coutinho—used *Flebotomus* in 1939 and 1940, *Phlebotomus* in 1941.

Coutinho—used *Flebotomus* in 1939 and once in 1940 ; used *Phlebotomus* in 1940 and 1941.

Authors who have consistently used "Phlebotomus" :

Addis, C. J.	3 papers	1945
Adler, S., <i>et al.</i>	5 "	1926—29
Alexander, C. P.	1 "	1944
Aragao, H. de B.	1 "	1922
Barreto, M. P., <i>et al.</i>	15 "	1940—43
Bayma, T.	2 "	1923, 1926
Bequaert, J.	1 "	1938
Bonne-Webster and Bonne	1 "	1919
Brethes, J.	1 "	1923
Christophers, S. R., <i>et al.</i>	1 "	1926
Cordero, E. H., <i>et al.</i>	2 "	1928—30
Dampf, A.	2 "	1938—44
de Meillon, B., <i>et al.</i>	1 "	1944
Dyar, H. G., <i>et al.</i>	2 "	1926—29
Floch, H., and Abonnenc, E. . . .	16 "	1941—45
Franca, C., <i>et al.</i>	6 "	1919—21
Galliard, H.	3 "	1934
Hall, D. G.	1 "	1936
Hertig, M.	4 "	1938—43
Hou	1 "	1943
Howlett, F. M.	2 "	1913—16
Johannsen, O. A.	1 "	1943
Kirk, D., <i>et al.</i>	1 "	1937
Kirk, R., and Lewis, D. J.	1 "	1940
Knab, F.	1 "	1913
Langeron, M., and Nitzulescu, V. . . .	1 "	1932
Larrousse, F.	3 "	1920—22
Lindquist, A. W.	1 "	1936
Lloyd, R. B., <i>et al.</i>	1 "	1930
Lutz, A., and Neiva, A.	1 "	1912
Magnitsky, W. J., and Gutsewitch	1 "	1929

Manalang, C.	..	..	..	3 papers	1930
Marett, P. S.	..	..	..	1 "	1911
Makerji, S.	..	..	..	5 "	1930—31
Napier, L. E.	..	..	..	3 "	1930—31
Nasonov, N.	..	..	..	1 "	1926
Newstead, R.	..	..	..	4 "	1911—22
Nitzulescu, V.	..	..	..	5 "	1930—31
Ortiz, I.	..	..	..	1 "	1942
Packchanian, A.	..	..	..	1 "	1946
Parman, D. C.	..	..	..	1 "	1919
Parrot, L.	..	..	..	5 "	1921—29
Patterson, G. C.	..	..	..	3 "	1926
Patton, W. S., and Hindle, E.	..	..	..	2 "	1926—28
Perfiljew, P. P.	..	..	..	2 "	1928
Pessoa, S. B., <i>et al.</i>	..	..	..	2 "	1939—40
Pinto, C.	..	..	..	3 "	1926—39
Di Premio, R.	..	..	..	1 "	1932
Popow, P. P.	..	..	..	1 "	1926
Raynal, J.	..	..	..	2 "	1935—37
Ristorcelli, <i>et al.</i>	..	..	..	2 "	1941
Root, F. M.	..	..	..	1 "	1934
Roubard, E., <i>et al.</i>	..	..	..	1 "	1927
Shannon, R. C.	..	..	..	6 "	1913—27
Shattuck, G. C.	..	..	..	1 "	1936
Schurenkova, A. I., <i>et al.</i>	..	..	..	1 "	1933
Sinton, J. A.	..	..	..	27 "	1925—28
Smith, R. O. A.	..	..	..	2 "	1926, 1934
Summers, S. L. M.	..	..	..	2 "	1912—13
Theodor, O.	..	..	..	3 "	1931—32
Tonnoir, A. L.	..	..	..	1 "	1935
Townsend, C. H. T.	..	..	..	2 "	1913—14
Wanson, M.	..	..	..	1 "	1942
Waterson, J.	..	..	..	1 "	1922
Whittingham, H. E., and Rook, A. E.	..	..	..	2 "	1922—23
Yao, Y. T., and Wu, C. C.	..	..	..	6 "	1938—41
Young, T., <i>et al.</i>	..	..	..	1 "	1927

7. *Supplementary information furnished by Dr. G. B. Fairchild :*
 On 27th January 1947 Dr. Fairchild informed the Commission that he and Dr. Marshall Hertig had sent copies of their letter of 21st November 1946 (reproduced in the immediately preceding paragraph of the present *Opinion*) (1) to Dr. Alan Stone (*United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C., U.S.A.*) and (2) to Professor A. Costa Lima (*Oswalso Cruz Institute, Brazil*). Dr. Fairchild

enclosed (in original) the replies which he had received from these specialists. Extracts from these letters are given below :—

(a) Extract from a letter dated 29th November 1946 from
Dr. Alan Stone

The copy of your letter to the International Commission on Zoological Nomenclature arrived, and I am glad to see that you are doing something about *Flebotomus*. I do not know that anyone else has written the Commission on the subject, but Secretary Hemming suggested that it be done. I have a few comments to make on your letter, however.

First, I think that your request to the Commission should be so worded as to require an answer to the question, "Is suspension necessary?" If the emendation from *Flebotomus* to *Phlebotomus* is legitimate then we can go ahead using the latter without any suspension of the rules, but I should very much like to have the Commission's opinion on this point. Unless very specifically asked I am afraid that they would slide over that point and we would get only another suspension with no clear principles laid down.

You state that "All the Old World . . . species have been described under *Phlebotomus*". This is not quite true, since *papatasi* was described under *Bibio*.

Perhaps you should like to add some more references to your bibliography. Under "consistent use of *Flebotomus*" you might include: Mangabeira and Galindo, 1944, 1 paper, 1 new species; Rapp, W. F., 1944—45, 3 papers; Rapp, W. F., and Cooper, J. L., 3 papers; Damasceno and Causey, 1946, 2 new species; Causey and Damasceno, 1946, 4 new species; Coquillett, 1907, 2 new species. Although the Rapp checklists and catalogues are very poor, he has, nevertheless, consistently used *Flebotomus*, and they will probably be used considerably and have some influence. You have the Coquillett reference but no statement as to the number of species. These were *vexator* and *cruciatu*s.

Under consistent use of *Phlebotomus* I presume that by Franga you mean Franca. You might also include Perfiliev's important paper on the subfamily, 1937, Faune de l'URSS.

I am not at all averse to using *Phlebotomus*, my only reason for using *Flebotomus* being that I think that this is necessary under the

Rules. I fully expect that the Commission will sanction *Phlebotomus*, either by interpretation or suspension.

(b) Extract from a letter dated 18th December 1946, from Professor A. Costa Lima

I entirely agree with you when you say : " We feel that under a strict interpretation of the Rules, ignoring the obvious derivation of the word and Rondani's own later acceptance of the emendation, *Flebotomus* is the correct spelling. There are, however, several good reasons for retaining the emendation, and we are in favor of suspending the Rules, should it be decided that the emendation is unwarranted, and placing *Phlebotomus* on the *Official List of Generic Names* ".

8. *Issue of Public Notices* : In the early stages of the investigation of this problem it appeared that the principal question involved was whether or not the authoritative adoption at that date of the original spelling *Flebotomus* in place of the emendation *Phlebotomus* would be likely to give rise to confusion, but it gradually became apparent that a substantial doubt existed as to whether or not the original spelling *Flebotomus* represented an infraction of the provisions of Article 19 of the *Règles*. The possibility therefore emerged that the Commission might find that on a due construction of Article 19 no objection could be taken to the spelling *Flebotomus* but that it might take the view that in the interests of nomenclatorial stability it was desirable that it should use its Plenary Powers to validate the emendation *Phlebotomus*. In order that the Commission might be free to deal with this case in whatever manner it thought best, a notice of the possible use, by the International Commission, of its Plenary Powers in this case was issued on 20th November 1947 to the serial publications prescribed by the Ninth International Congress of Zoology, Monaco, 1913. The publication of this notice elicited no objection to the use of the Plenary Powers in the manner suggested above.

9. *Report by Mr. Francis Hemming (Secretary to the International Commission on Zoological Nomenclature)* : At the close of 1947, Mr. Hemming took the view, as Secretary to the Commission, that it was desirable that, before the Commission were asked

to take a decision on the question whether or not the emendation to *Phlebotomus* of the name *Flebotomus* was justified under Article 19 of the *Règles*, a more comprehensive examination of the issues involved should be made than had hitherto been attempted. Mr. Hemming accordingly himself investigated this matter, and in February 1948 embodied his conclusions in this matter in the paper set out below. In this paper, it will be observed, Mr. Hemming, after marshalling such evidence as he was able to collect, reached the conclusion that the spelling *Flebotomus* was not subject to emendation under Article 19 and that, if it were to be decided that the emended spelling *Phlebotomus* ought to be preserved, it would be necessary for the International Commission to use its Plenary Powers to secure this end.

On the interpretation of Article 19 of the "Règles", with special reference to the spelling of the generic name "Flebotomus" Rondani, 1840 (Class Insecta, Order Diptera)

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

In the issue of *Science* of 28th April 1944 (*Science* (n.s.) 99 : 345) Mr. William F. Rapp, Jr., drew attention to the fact that the generic name commonly spelt *Phlebotomus* had been spelt *Flebotomus* when first published by Rondani in 1840. At the same time Mr. Rapp expressed the view that, under the *Règles*, *Flebotomus* was the correct spelling and should therefore be used in place of the familiar *Phlebotomus*.

2. In view of the wide use of the spelling *Phlebotomus* in medical and other literature, the Executive Committee of the International Commission on Zoological Nomenclature, on having their attention drawn to this matter, asked me to publish in *Science* a short note expressing the view that the established spelling of this important generic name should not be changed until a decision on the issue involved had been obtained from the International Commission. The note prepared at the request of the Executive Committee appeared in the issue of *Science* of 27th October 1944².

3. Before this note was actually published, Dr. C. T. Brues invited the International Commission to give a ruling on the relative merits of the rival spellings *Flebotomus* and *Phlebotomus*³. Towards the close of 1946 Drs. G. B. Fairchild and Marshal Hertig submitted an

² See paragraph 1 of the present *Opinion*.

³ See paragraph 2 of the present *Opinion*.

application to the Commission in favour of the validation of the spelling *Phlebotomus* under the Commission's plenary powers to suspend the *Règles*⁴. At the same time these applicants requested the Commission to place this generic name, so emended, on the *Official List of Generic Names in Zoology*.

4. In a letter dated 29th November 1946 communicated to the Commission by Dr. Fairchild, Dr. Alan Stone expressed the view⁵ that it would be unfortunate if the Commission were to reach a decision in this case under its Plenary Powers without first giving proper consideration to the question whether in fact the use of those Powers was necessary to secure the end desired in the application by Drs. Fairchild and Hertig.

5. I entirely agree with the opinion advanced by Dr. Stone, for clearly the application submitted in this case raises two entirely distinct issues, namely :—

- (1) Do the provisions of Article 19 of the *Règles* require that the generic name *Flebotomus* should be emended to *Phlebotomus*?
- (2) If not, is there a case for the use by the International Commission on Zoological Nomenclature of its Plenary Powers to suspend the *Règles* for the purpose of giving valid force to the spelling *Phlebotomus* in preference to the original spelling *Flebotomus*?

6. Article 19 provides that the original spelling of a name is to be preserved unless either (1) a "*faute d'orthographe*" or (2) a "*faute de transcription*" or (3) a "*faute d'impression*" is "*évident*"⁶. There is nothing permissive about this Article. Its terms are mandatory and accordingly in certain circumstances the original spelling must be altered while in others it must be retained.

7. The wording of this Article is, however, such that it is often extremely difficult in any given case to determine whether the original spelling of a particular name should be emended or not. This doubt may arise from a number of causes, e.g. :

- (1) In what circumstances is the existence of a "*faute d'orthographe*" "*évident*" within the meaning of Article 19?
- (2) What is the meaning that should be attached to the expression "*faute de transcription*" and in what circumstances is the existence of such an error "*évident*"?
- (3) When is it "*évident*" that a "*faute d'impression*" has occurred?

⁴ See paragraph 6 of the present *Opinion*.

⁵ See paragraph 7 of the present *Opinion*.

⁶ It must be realised that the statement in this paragraph regarding the terms of Article 19 reflect the position as it existed at the time when this paper was written at the beginning of 1948. In 1953 Article 19 was completely rewritten by the Fourteenth International Congress of Zoology, Copenhagen (see 1953, *Copenhagen Decisions on Zoological Nomenclature* : 43—46).

8. At various times the International Commission on Zoological Nomenclature has had under consideration applications in regard to the spelling of particular names, each of which raised some question of the interpretation of Article 19. Unfortunately, however, in the *Opinions* rendered on these cases, the Commission contented itself with giving a decision on the spelling to be used for the particular name in question and did not lay down any general principles which would be readily applicable to similar cases and thus obviate the need for submitting to the Commission applications which in fact raised no new nomenclatorial issues. Further, as has recently been pointed out by Blackwelder, Knight and Sabrosky (1947, *Science* (n.s.) 106 : 315—316) it must be admitted that, if all the *Opinions* rendered on particular cases are compared with one another, it is impossible to deduce therefrom any general principles owing to inconsistencies in the arguments used in, and the conclusions reached on, the individual names dealt with in these *Opinions*.

9. It is quite clear therefore that a thorough examination by the Commission of the ambiguities in Article 19 is long overdue and that what is required is a comprehensive *Opinion* giving rulings on all those points which are at present the subject of doubt, supplemented by recommendations for the insertion in Article 19 of words formally clarifying the issues in question. It is the intention of the Commission to undertake such an examination at an early date.⁷

10. In view, however, of the extensive literature relating to the Sand Fly, it would not be desirable to delay a decision on the relative merits of the spellings *Flebotomus* and *Phlebotomus* until the Commission has had time to reach conclusions on all the issues raised by Article 19. It is necessary therefore to examine the status of the spelling *Flebotomus* under Article 19 in the light of such evidence as is immediately available.

11. In a case such as the present the first thing to do is to examine the work in which the name in question was first published. In the present instance this was a 16-page octavo pamphlet published by Camillo Rondani in 1840. This pamphlet was issued with two titles, the first on the wrapper, the second on the title-page. The legend on the wrapper reads : “ Memoria per servire alla Ditterologia italiana ” (the first and the two last words being printed in capitals, the remainder in lower case). The legend on the title reads : “ Sopra una specie di Insetto dittero. Memoria prima per servire alla Ditterologia italiana di Camillo Rondani ”. The first part of the title, i.e. the words “ Sopra una specie di Insetto dittero ” are printed in small italic capitals, while the words “ Memoria prima ” (the two first words of the second title) are printed in large capitals in heavy black (clarendon-like) type ; the words “ Ditterologia italiana ” (the last two words of the second title) are printed in large italic capitals. In

⁷ See footnote 6.

view of the kinds of type used on the title-page for the two titles employed, I consider that the main title of the work in which the name *Flebotomus* was first published by Rondani is: "Memoria per servire alla Ditterologia italiana" (the title printed in large capitals and in part in heavy type) and that the title "Sopra una Specie di insetto dittero" (the title printed in small italic capitals) should be regarded not as the title of the work in which the name *Flebotomus* was published by Rondani but as the title of the paper containing that name which appeared in Part I of the work entitled "Memoria per servire alla Ditterologia italiana". As the description appears on page 12 of the pamphlet, the correct bibliographical reference for this name is *Flebotomus* Rondani, 1840, *Mem. serv. Ditterolog. ital.* 1:12. The genus *Flebotomus* Rondani is monotypical, the type being *Bibio papasiti* Scopoli, 1786, *Deliciae Faun. Flor. insubr.* 1:55. The pamphlet discussed above is extremely rare, the only copy known to me being the photostat example in the British Museum (Natural History). For permission to study this example and for advice as to points of interpretation relating to it, I am much indebted to my friend Mr. N. D. Riley, Keeper of the Department of Entomology.

12. An examination of the pamphlet discussed above shows that Rondani's use of the spelling "Flebotomus" (i.e. the spelling with the initial letter "F-"), was deliberate, for in that pamphlet he used this word on a number of occasions and in a number of forms (Flebotomus, Flebotomi, Flebotomidae, Flebotominae, etc.), always with an initial "F-". Accordingly, it cannot be argued that this spelling is due to a "*faute d'impression*". (It should be noted that Hagen (1863, *Biblioth. ent.* 2:88) was incorrect in stating that the word "Phloeobotomus" (so spelt) formed part of the title of the paper in which Rondani published the name *Flebotomus*.)

13. We have next to consider whether the spelling of this generic name with an initial "F-" was due to a "*faute de transcription*" on the part of Rondani. Here we are confronted with the difficulty that it is by no means clear what meaning should be attached to this expression as used in Article 19 of the *Règles*. Pending an authoritative ruling on this subject by the International Commission on Zoological Nomenclature, it is only possible to adopt whatever interpretation appears to one to be the most reasonable. My view is that in this context this expression should be regarded as meaning "an error committed by the author of a scientific name when copying that name into his manuscript from some other source". In the present case there is no evidence whatever that Rondani committed a "*faute de transcription*" when he wrote the word "Flebotomus" in his manuscript. Indeed, as we shall see when we come to assess the probability that Rondani committed a "*faute d'orthographe*" (paragraph 17 below) there are excellent reasons for concluding that he committed no "*faute de transcription*" when he entered the spelling "Flebotomus" in his manuscript.

14. The ground on which it is claimed that the spelling "Flebotomus" represents a "*faute d'orthographe*" and should therefore be emended to "Phlebotomus" is that this word is a compound of two Greek words of which the first has the meaning "vein" (being derived from the Greek word $\phi\lambda\epsilon\psi$, of which the root is $\phi\lambda\epsilon\beta$ -) and the second the meaning "cutting" (being derived from the Greek verb $\tau\epsilon\mu\nu\omega$, "to cut"). Most of the authors who have discussed this question appear to have assumed that this word was a compound noun of Greek origin coined by Rondani. A few, however, have argued that there is no evidence to show that from Rondani's standpoint the word "Flebotomus" was anything but an arbitrary combination of letters ("mot formé par un assemblage quelconque de lettres") of the kind contemplated in Recommendation (k) in Article 8 of the *Règles*. Each of these possibilities is discussed in turn below.

15. As a first step in the investigation of the first of these problems, I consulted my colleague Mr. R. Cleaver who kindly drew my attention to the fact that the word "Phlebotomus" (so spelt) had been used as meaning a "lancet" (i.e. an instrument for cutting veins) by Caelius Aurelianus (in a work entitled *Acutae Passiones*) as early as the 3rd Century A.D. and that it had been used also in the same sense by Theodorus Priscianus. On learning these particulars, I realised that it would be necessary carefully to study authoritative Latin and other dictionaries in order to interpret the adoption by Rondani of the word "Flebotomus" as the name for the new genus of Sand Flies.

16. For help in this part of my task I wish to express my gratitude to Dr. Charles Singer, Professor Emeritus of the History of Science in the University of London and to Mrs. Dorothea Waley Singer who very kindly placed their extensive library at my disposal during a visit which my wife and I recently paid to them in Cornwall. The following extracts from the dictionaries so consulted show the evidence obtained through this investigation:—

(1) *Italian*

(extract from "Dizionario della Lingua italiana", vol. 3, Padova, 1828)

Flebotomia. *L'atto del trar sangue dalla vena*. *Vol. Ras*. Si si faccia flebotomia della vena del fegato. *Red. Cons.*
1. 144. Per vincere dunque l'inflammazione dell'occhio, opportunissime sono state le iterate e reiterate flebotomie.

(2) *Spanish*

(extract from "Diccionario de la Lengua espanola", Decima sexta Edicion. Madrid, 1939.

Flebotomia. (Del. gr. $\phi\lambda\epsilon\beta\omicron\tau\omicron\mu\iota\alpha$, de $\phi\lambda\epsilon\beta\omicron\tau\omicron\mu\omicron\varsigma$; de $\phi\lambda\epsilon\psi$, vena, y $\tau\acute{\epsilon}\mu\nu\omega$, cortar) f. Arte de sangrar, 1^a. acep.//
2. Sangria 1^a acep.

(3) *English*

(extracts from "A new English Dictionary on historical principles", vol. 7, Pt. II. Oxford, 1909).

Phlebotomy. Forms : 5 fleobotomie, -ye, (flo-, flabotomye), 5-6 flebotomye, (9 -y), 6 fleubothomy (e, flebothomie, -y, phlebothomy, -tomye), 6-7 -tomie, (7 -thomie), 6 phlebotomy. [a. F. *flebothomie*, It. *flebotomia*, ad L. *phlebotomia*, a Gr. *φλεβοτομία*, the opening of a vein, f. *φλεβοτομος*, that opens a vein, f. *φλεβο-* PHLEBO- + *τομος* -cutting, -cutter.]

(4) *Mediaeval Latin*

(extract from "Glossarium mediae et infimae Latinitatis conditum a Carolo Dufresne Domine du Cange cum Supplementis integris Monachorum Ordinis S. Benedicti D.P.Carpenterii . . . digessit G.A.L.Henschel". Tomus Tertius Parisiis 1844).

Flebotomus, Venae sector. Vita S.Patriciae tom. 5, Aug. pag. 218. col. 1 : *Ipsa Flebotomus ferro, cum quo sanguis excussus fuerrat, nervum ejus percussit. Vide Flebotomarius.*

(5) *Classical Latin*

(extract from Lewis and Short, "Latin Dictionary")

Phlebotomus (fleb-), i, m, = *φλεβοτόμος* a lancet, a fleam : phlebotomo uti, Cael. Aur. Acut. 2, 19, 121 : adhibendus, Theod. Prisc. 2, 21 : transverso phlebotomo percutere, Veg. Vet. 1, 19, 1.

17. The authorities quoted above establish a number of points which have either never been referred to in the discussion of the orthography of the name *Flebotomus* Rondani or to which in those discussions insufficient weight has been given. These points are :—

- (1) The word *Flebotomus* is not a word coined by Rondani but either with an initial "F-" or an initial "Ph-" occurs in English, French, Italian (Rondani's own language) and Spanish as a word having the meaning "lancet" (= instrument for cutting a vein).
- (2) This word occurs also in Mediaeval Latin and in Classical Latin with the same meaning. Though apparently in Latin, this word was spelt with an initial "Ph-" for preference, it was also spelt with an initial "F-".

18. We now see therefore than an educated Italian writing in Rondani's day (1840) would certainly have been aware of the existence of the Italian word "*Flebotomia*", meaning a lancet. The fact that

in his own language this word was spelt with an initial "F-" would naturally lead an Italian author, when using the word in a Latinised form, to spell it in this way and not with an initial "Ph-". Further, even if such an author had felt doubt as to the correctness of this way of spelling this word, when Latinised, and had accordingly consulted a Latin dictionary, before using this spelling for a new scientific name, he would have seen, as we now know, that that spelling had been used in Classical and Mediaeval Latin as well as the more acceptable spelling with an initial "Ph-". In these circumstances we may certainly conclude that, if Rondani deliberately used this word as the generic name of the Sand Fly to designate some lancet-like character of the structure of that fly, the spelling which he used for this name (*Flebotomus*) was no accident but was the spelling which he intended to employ. This spelling cannot therefore be dismissed either as a "*faute d'impression*" (paragraph 12 above) or as a "*faute de transcription*" (paragraph 13 above). Nor in such circumstances could this spelling be rejected as a "*faute d'orthographe*", for (as we have seen) the spelling with an initial "F-" was used in Classical and Mediaeval Latin as well as the spelling with an initial "Ph-".

19. There remains the possibility (alluded to in paragraph 14 above) that Rondani's use of the word "*Flebotomus*" as the name for his new genus was purely fortuitous and that from his standpoint this word was no more than an arbitrary combination of letters. Fortunately, this possibility need not detain us, for the following extract from Rondani's original description of the genus *Flebotomus* clearly shows that he deliberately chose this word to draw attention to the lancet-like character of the structure of the Sand Fly :—

(: 5) . . . Ci contenammo per allora di stabilire per esso un nuovo genere, che ponemmo in seguita alle *Culicidi* senza cercare più in là, e gli abbiamo dato il nome di *Flebotomus*, che togliemmo dalla forme a lancetta delle lamine del succhiatojo, e dalla mala abitudine di estrarre il sangue dalle nostre vene.

20. We can therefore conclude with certainty that Rondani used the word "*Flebotomus*" as a new generic name because he considered that the meaning of that word—a lancet—was appropriate for the purpose. We have seen also (paragraph 18 above) that the spelling with an initial "F-" used by Rondani cannot be discarded in favour of the spelling with an initial "Ph-" on the ground the former is a "*faute d'orthographe*" for the latter.

21. In the light of the foregoing considerations, I conclude that none of the three exceptions specified in Article 19⁸ applies to the spelling "*Flebotomus*" and therefore that the spelling is the correct spelling of this generic name under the *Règles*.

22. The only way by which valid force could be given to the spelling "*Phlebotomus*" would be for the International Commission on

⁸ See footnote 6.

Zoological Nomenclature to use its Plenary Powers to suspend the *Règles* for the purpose of designating that as the correct spelling of the generic name proposed by Rondani. On this question, I think that it can be conclusively shown that, in view of the extensive use of the spelling "Phlebotomus" (in preference to the spelling "Flebotomus") in medical and other technical literature as well as in that of systematic zoology, the strict application of the *Règles* in this case, involving, as it would, the transfer of this name from one part of the alphabet to another, would clearly result in greater confusion than uniformity. I conclude therefore that a case has been established for the use of the Commission's Plenary Powers to validate the spelling "Phlebotomus".

23. I accordingly recommend the International Commission on Zoological Nomenclature that it should render an *Opinion* (1) declaring under its Plenary Powers that the generic name originally published by Rondani in 1840 as *Flebotomus* is to be emended to *Phlebotomus*, and (2) placing the generic name *Phlebotomus* (emend. of *Flebotomus*) Rondani, 1840 (type by monotypy: *Bibio papatasi* Scopoli, 1786) on the *Official List of Generic Names in Zoology*.

10. *Preparations for the Meeting of the Commission in Paris in 1948*: In preparation for the consideration of this case by the International Commission at Paris in 1948 a brief synopsis of its principal features was included in Paper I.C.(48) 19 then submitted to it by the Secretary. The following is an extract of the relevant passage in Mr. Hemming's paper (1950, *Bull. zool. Nomencl.* 3 : 136—137):—

(5) *Phlebotomus* or *Flebotomus* (*Class Insecta, Order Diptera*): This name was published by Rondani in 1840 with an "F-" but was emended to "Ph-" by Agassiz in 1846. This emendation is in general, though not universal, use and it is generally agreed by the authorities who have approached the Commission (C. T. Brues; G. B. Fairchild; Marshall Hertig) that it would cause confusion if (as suggested by William F. Rapp, Jr.) the original "F-" spelling were to be re-adopted. It has been suggested by some of the Commission's correspondents that the original spelling was a "*faute d'orthographe*" or a "*faute de transcription*" or a "*faute d'impression*". It is clear, however, from Rondani's paper that his spelling was intentional. This would indeed have been the natural spelling for an Italian to adopt, having regard to the Italian word "*Flebotomia*" (meaning "lancet"). If, therefore, the "Ph-" spelling is to be continued, the Commission will have to use its Plenary Powers to secure this end. In view of the very wide use of this spelling in medical works and also of the views of specialists who have approached the Commission, it is suggested that action in this sense should be taken. The case was advertised last November and no objection has been received against the adoption

of this course. It is suggested that at the same time as the "Ph-" spelling is validated, this generic name should be placed on the *Official List* (type *Bibio papatasi* Scopoli, 1786, by monotypy).

III.—THE DECISION OF THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

11. The present application was considered by the International Commission on Zoological Nomenclature at the Thirteenth Meeting of its Paris Session held at the Sorbonne in the Amphithéâtre Louis-Liard on Monday, 26th July 1948 at 1730 hours. The following is an extract from the Official Record of the Proceedings of the International Commission, summarising the discussion which took place at the foregoing meeting (1950, *Bull. zool. Nomencl.* 4 : 358—359) :—

THE ACTING PRESIDENT (MR. FRANCIS HEMMING) recalled that, when in 1944 Mr. Rapp had first suggested in the journal *Science* that the original spelling of *Flebotomus* should be restored, it had appeared to him, as Secretary to the Commission, that this was exactly the type of change in a name of importance in applied biology which ought not to be made on technical nomenclatorial grounds until the issues involved had been submitted to, and considered by, the Commission, for such changes were incomprehensible to, and were resented by, workers in those fields and should certainly be avoided, if at all possible. He had accordingly published a note inviting specialists to respect the "Ph-" spelling until the Commission had been able to consider the whole matter. When later he had himself looked into the origin of the word on which this generic name was based, he had found that no proper examination of this matter had ever been made. The technical problems involved were complex and he had had to appeal to expert linguists and lexicographers for advice. As the results of these studies he had reached the conclusion that, from the standpoint of an educated Italian of the

mid-XIXth century, such as Rondani, the "F-" spelling was correct and consequently that this was not a case which could properly be dealt with under Article 19 of the *Règles*. In view, however, of the importance of this name in medical literature it seemed to him that a reversion to the spelling originally used by Rondani would lead to confusion outside systematic circles and was the type of name change which brought discredit on zoological nomenclature among workers who were not concerned with, or interested in, the minutiae of the rules adopted by zoologists for their own work. He accordingly commended to the favourable consideration of the Commission the request that the "Ph-" spelling of this name should be preserved by the Commission by the use of the Plenary Powers.

PROFESSOR L. DI CAPORIACCO (ITALY) said that, speaking both as a zoologist and as an Italian, he was strongly in favour of the maintenance of the "Ph-" spelling of this well-known name. He was surprised that any other course should have been suggested.

12. The decision taken by the International Commission in this case is set out as follows in the Official Record of its Proceedings (Paris Session, 13th Meeting, Conclusion 6) (1950, *Bull. zool. Nomencl.* 4 : 359) :—

THE COMMISSION agreed :—

- (1) to use their Plenary Powers to emend to *Phlebotomus* the generic name originally published by Rondani in 1840 as *Flebotomus* (Class Insecta, Order Diptera) ;
- (2) to place the generic name *Phlebotomus* Rondani, 1840 (type species : *Bibio papatasi* Scopoli, 1786, by monotypy) on the *Official List of Generic Names in Zoology* and the trivial name *papatasi* Scopoli, 1786

(as published in the binominal combination *Bibio papatasi*) on the *Official List of Specific Trivial Names in Zoology* ;

- (3) to render an *Opinion* setting out the decisions recorded in (1) and (2) above.

13. The decision taken in the present case was reported to, and approved by, the Section on Nomenclature of the Thirteenth International Congress of Zoology, Paris, 1948, at its Fifth Meeting held on 26th July 1948 (1950, *Bull. zool. Nomencl.* 5 : 104—105).

14. The Ruling given in the present *Opinion* was concurred in by the sixteen (16) Commissioners and Alternate Commissioners present at the Paris Session of the International Commission, namely :—

Beltrán *vice* Cabrera ; Boschma ; Bradley ; di Caporiacco ; Hemming ; Hindle *vice* Jordan ; Jorge *vice* do Amaral ; Kirby *vice* Stoll ; Lemche *vice* Dymond ; Mansour *vice* Hankó ; Metcalf *vice* Peters ; Riley *vice* Calman ; Rode ; Spärck *vice* Mortensen ; van Straelen *vice* Richter ; Usinger *vice* Vokes.

15. The Ruling given in the present *Opinion* was dissented from by no Commissioner or Alternate Commissioner present at the Paris Session.

16. The following are the original references for the names placed on the *Official Lists* and *Official Indexes* in the Ruling given in the present *Opinion* :—

Flebotomus Rondani, 1840, *Mem. serv. Ditterol. ital.* 1 : 12
(alternative title : *Sopra una spec. Ins. ditt.*)
papatasi, *Bibio*, Scopoli, 1786, *Delic. Faun. Flor. insubr.* 1 : 55
Phlebotomus (emend of *Flebotomus*) Rondani, 1840, *Mem. serv. Ditterol. ital.* 1 : 12 (alternative title : *Sopra una spec. Ins. ditt.*)

17. The gender of the generic name *Phlebotomus Rondani*, 1840, is masculine.

18. Under the provisions relating to the *Official Index of Rejected and Invalid Generic Names in Zoology*, the International Commission is required to place thereon every generic name which it either rejects under its Plenary Powers or declares to be invalid. In the present instance, the entry on this *Official Index*, under the foregoing provisions, of the Invalid Original Spelling *Flebotomus Rondani*, 1840, was inadvertently omitted from the Official Record of the Proceedings of the International Commission. This omission has been rectified in the Ruling given in the present *Opinion*.

19. At the time of the adoption of the Ruling given in the present *Opinion*, the expression prescribed for the second portion of the binomen which constitutes the scientific name of a species was the expression "trivial name" and the *Official List* reserved for recording such names was styled the *Official List of Specific Trivial Names in Zoology*, the word "trivial" appearing also in the title of the *Official Index* reserved for recording rejected and invalid names of this category. Under a decision taken by the Fourteenth International Congress of Zoology, Copenhagen, 1953, the expression "specific name" was substituted for the expression "trivial name" and corresponding changes were made in the titles of the *Official List* and *Official Index* of such names (1953, *Copenhagen Decisions zool. Nomencl.* : 21). The change in terminology so adopted have been incorporated in the Ruling given in the present *Opinion*.

20. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

21. The present *Opinion* shall be known as *Opinion Two Hundred and Fifty-Six (256)* of the International Commission on Zoological Nomenclature.

DONE in London, this Seventeenth day of December, Nineteen Hundred and Fifty-Three.

*Secretary to the International Commission
on Zoological Nomenclature*

FRANCIS HEMMING

